An Introduction to the Network of European Technocrats

http://en.technocracynet.eu

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Introduction

The Network of European Technocrats (N.E.T.) is an autonomous research organisation comprised of volunteer members from around the world. Although we have many members who work as experienced scientist and engineers and hold science and engineering degrees as well as PhDs NET welcomes a diversity of members with many different levels of skills and interests. NET works towards a better tomorrow!

NET does not consider today's socioeconomic system as sustainable. We have many problems from poverty to peak oil to climate change and global warming to exploitation of our natural biosphere as well as people. We propose an alternative sustainable system based on the application of science and engineering that aims for a high standard of living for all in a technological society that balances our needs with those of nature.

NET proposes a distributed, holonic, system where all technology would come under the management of experts each in their specialist field (which makes our proposal a type of technocracy) and where the people manage the non-technical aspects of society through a process of direct democracy.

NET proposes local as possible to where people will feel the effect of those decisions. Power become distributed and not centralised.

NET propose removing our current debt based financial system with a demand based distributed resources allocation system that allocates production capacity in terms of energy to each individual. Behind the scenes experts would managed the system to minimise our impact on the world.

NET propose a sustainable system built up from localised sustainable communities.

Our members current work on developing and experimenting with these ideas. We have many projects on going and we also have activities off the web as well such a film events and lectures.

North American Approach

Originating in the Depression era, Technocracy is a design for the distribution of goods and services on a continental scale based on research conducted in North America between 1918 and 1933. Technocracy itself may be divided into a science and a social movement, which seek to harness technology and scientific analysis in order to optimize the welfare of human beings. The original Technocrats of North America sought to apply the methodology of the physical sciences to a thorough analysis of social phenomena in industrial society, culminating in the publication of a North American energy survey in 1933. Several key conclusions regarding the distribution of goods and services in an increasingly technologically driven industrial society were elucidated.

Perhaps the most striking of these is the conclusion that the physical conditions under which the then dominant model of economy developed had sufficiently been altered by the widespread implementation of technology in industrial processes. According to Technocracy, the dominant economic paradigm had been based on a time when goods and services were naturally scarce. The widespread use of technology in industrial and agricultural processes had provided an ability for the entire continent to easily produce goods well in excess of the consuming power of the population, thus creating an abundance. Upon these premises, Technocracy as a design for the distribution of abundant goods on a continental scale was developed. Among the characteristics of the design were the separation of the technical and political management of the North American continent, the implementation of energy accounting as a medium of distribution to replace the function of money, and the development of a functional infrastructure designed to maximize the efficiency of production and distribution. Technocracy as a social movement compliments the scientific approach, aiming to promote the results of Technocratic research and design and to generally educate the public about the conclusions drawn by Technocratic research. The contemporary Technocratic movement aims to bring the original research into the contemporary realm, to improve upon the methodology and examine the empirical relationships between social phenomena, and to modify the design where required in order to reflect the functioning of industrial society today.

The science

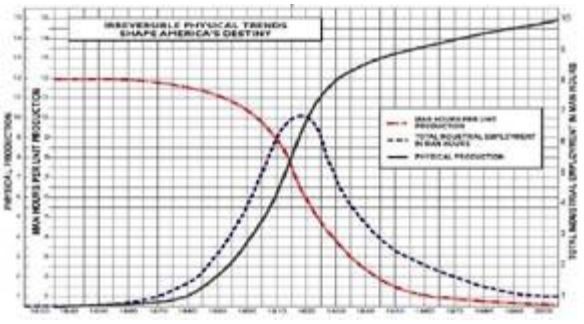
A high-energy society

The reliance of industrial society on high energy inputs is another important element of Technocratic research, and a purported cause of the current abundance of material goods.

Technocratic theses are quick to draw the link between human society and the dynamic equilibrium that exists between all organic lifeforms on the planet, which they categorize as a free market in which species compete for access to energy supplies - be they in the form of consumption of other organic matter, or directly from solar radiation. Initially, according to the TTCD (2004), the human share of the global energy supply was small, and incrementally changed with the introduction of advanced tools for hunting and the development of agriculture. During the period of human history in which people were closely tied to agricultural work, the production of goods and provision of services largely came from manual labour (human energy) and the employment of extraneous sources of energy was small and limited to the servitude of animals (e.g. horses used to lead carts). According to the TTCD (2004), and recent accounts of human history (e.g. Blainey, 2000), the standard of living and the quantity of goods produced outside agricultural realms and with the aid of extraneous energy remained more or less unchanged until the period between 1750 and 1850. During this period, the widespread use of coal significantly increased with the first coking of coal in 1745, and Watt's development of the steam engine to aid mining operations in England (Blainey, 2000). It is this turning point, according to the TTCD (2004) and Technocratic theses in general (Technocracy, 2005), when real human progress began to change.

During the early 19th century, the use of coal had become widespread, and by the end of the century the same could be said of oil and gas. The TTCD (2004) states that "those who attempt to follow the industrial development that has taken place in all the western world since 1700 by taking into account all the separate inventions and technical developments that have occurred in the various fields of industry, soon find themselves hopelessly involved...all of this industrial activity has been based, for the main part, upon the use of a few relatively simple substances...iron, copper, tin, lead, zinc... and the use of basic sources of energy, chiefly the mineral fuels coal, oil and natural gas" (pp. 17). Thus, the progress and development of modern industrial society could be accurately mapped as a function of the extraneous energy used in the production of goods and the provision of services. Industrial growth curves, as plotted by Technocracy Inc. and shown in figure 2, indicate that as increasingly extraneous (non-human) energy is employed in the manufacture of goods and the provision of services, society as a whole moves towards a state of relative abundance. The importance of extraneous energy sources and their relationship to the adequate functioning of industrial society is said to characterize a dependence; that is, according to the TTCD (2004), "if we did not convert energy from a variety of sources...at this or a similar rate, our present industrial civilization would not exist. **Ours is a civilization of energy**" (pp. 18).

Scarcity and abundance



One of the central tenets of Technocratic research is that an age of technologically created material abundance renders an age of material scarcity obselete. The original research examined material abundance in terms of the relationship between goods produced by an entire economy between the man-hours (work done by a single man in one hour) and kilowatt-hours (work done by a machine in an hour) required to produce these goods over time, consumption and people employed. The best illustration of this relationship circa 1933 is shown in the three-curve chart, shown in figure 1. The original Technocrats found that over time, man-hours were increasingly being replaced by kilowatt-hours, thereby reducing the number of people employed in an economy. It was revealed also that the use of machines in industrial processes dramatically increased the number of goods that could

be produced in a given period of time. Since people were increasingly being replaced by machines, they were not able to earn a wage and buy the products of these machines. Thus, as production increased, the ability to consume correspondingly decreased. The paradox was clear, that the more we produced, the less we consumed. The closer we moved towards an abundance of material goods, the less material goods we were able to purchase and consume!

The culprit for this imbalance between production and consumption was said to be the price system. According to Technocracy, a price system is any method of distribution that involves the valuation of commodities based on their scarcity, and employs a debt token as a rate of exchange. The value of goods is thus said to be dictated by their scarcity, the more scarce being the more expensive. An example of this may be seen in the use of matches to light a candle. Not all the physical requirements of lighting the candle can be found in just the matches and the candle, since striking the matchstick against flint will not create a fire in the absence of oxygen. However, the only physical goods that would be purchased to light the candle are the matches and the candle itself - after all, oxygen exists in such abundance that it would command no value in a price system. According to Technocracy, the widespread implementation of technology has given human beings the ability to produce agricultural and industrial goods in such quantities as to render them akin to oxygen - valueless in a price system, but not worthless in the real physical world that humans inhabit.

Another element of the price system that is said to negate the potential physical abundance of material goods is the debt token; otherwise known as money. According to the TTCD (2004), and some contemporary economists (e.g. Tainter, 1996; Costanza, 1996), the provision of money as a means to regulate the exchange of real, physical goods is problematic, since money can be created out of nothing, whereas the goods can only be transformed from a prior form (notably raw materials, or recycled). Indeed, Belgian economist Bernard Lietaer indicates that the international finance system is based on competition not for markets and resources, but rather for money (Litaer & Van Gelder, 1996). In addition, Lietaer (1996) points out that money is virtually created out of nothing, as loans from banks and exist solely as pieces of paper in bankers ledgers. For example, $1,000 is created out of nothing when someone borrows this amount from a bank, however the borrower will be required to pay interest on this, the quantity of which is not created alongside the $1,000. Thus, if the interest amounts to an additional $1,000 over time (making the total amount owed to the bank $2,000), the only option the person has is to somehow get that additional $1,000 from other individuals who have also taken out similar loans from the bank, thus leaving a proportion of people perpetually poor or needlessly out of pocket. The two conclusions that Technocracy extracts from these facts is that all money is debt, and that built into money is an artificial scarcity that limits the ability of people to distribute or effect an abundance of physical goods.

The solution, according to Technocracy, is to redesign the mechanism by which commodities are distributed across an entire continent in order to harness the technological bounty that we possess. According to Technocracy, the requirements for a state of material abundance in an industrial society only exist on a continental level and include:

1. Necessary physical resources - This includes a state of ecological and geological abundance, including the provision of land for agriculture, the existence of minerals and metal ores, and energy resources.

2. Sufficient technology installed - This includes all technology used in the fields of agriculture and industrial processes with an ability to process raw materials into refined

products at a rate far higher than manual labour alone.

3. Sufficiently numbers of trained personnel - This includes all professionals with a technical or scientific background that allows them to operate and maintain the continental technological mechanism, and to continue to find innovative new ways of utilizing technology to maintain a state of abundance.

The design

Following from the requisite characteristics of abundance is a social design that aims to provide a mechanism of distribution suitable for the new conditions in which human beings find themselves. The design, known as the Technocracy Technological Continental Design (TTCD) in North America, aims to incorporate existing knowledge of the physical sciences with the empirical results of the energy survey in order to transform technologically created abundance into a physical reality. The social design is characterised by an emphasis on the functional management of commodity distribution, the separation of technical and non-technical spheres of society, the creation of a new mechanism by which production and consumption may be accurately measured, and a functional infrastructure that streamlines the efficiency of the technological mechanism. The area over which technical experts manage is referred to as a Technate, which includes all technological aspects of a given continent. Thus, any continent employing the Technocracy design would in essence be a Technate (rather than a Technocracy).

It is a common misconception that Technocracy is a form of political government, based on a rule of the elite. While the Greek roots of the word "Technocracy" mean "the rule of skill", the design of Technocracy rather seeks to maintain democratic traditions in the forming of social, cultural, linguistic and community decisions. The rule of skill in the Technocratic design refers to the management of purely technical processes; those processes requiring the application of scientific or engineering principles and skill, with the goal of optimizing production to meet demand on a continental level. This may include agricultural processes, industrial, medical, building and construction, and the management of infrastructure. That technical experts would be in control of these areas may at first seem a little alarming; however, according to the TTCD (2004), it is likely that a large proportion of the population would either be technicians themselves, or would possess an active role in such an economy in such a way that would diffuse this power. The measures of success in such a system would be the dilligence and merit that each individual applied and displayed to their profession.

Energy Accounting is employed in the Technocracy design as a measure of production and consumption, and is equally divided amongst members of the population as a proportion of the aggregate energy available for work in the Technate. Rather than being akin to a currency, which is a measure of debt and a store of value, energy credits would serve as a measure of the entire material wealth contained on the continental level over short periods of time. Energy accounting would continuously register the commodities produced and consumed over time within the Technate, providing continuous data that can be used to broadly predict demand over time. Rather than being delegated to individuals based on their amount of work, energy credits are distributed equally to individuals as a measure of purchasing power, regardless of their vocation. Since the

energy credits one receives is equal to that of their neighbour, which is in turn an equal proportion of the greater aggregate of energy credits, one can only increase their consuming power by also increasing their neighbours consuming power. The system of energy accounting is thus aimed at providing a mechanism of distribution and a material means by which to foster co-operation.

The social movement

The description of Technocracy above is just a brief summary of the science and the design engendering the Technocratic approach. For a more detailed description of the North American design, you can download a copy of the Technocracy Technological Continental Design at the Technocracy Inc. The current aim of the European movement is to address areas of the design and research that are no longer relevant, and to examine new areas of research such as ecology and psychology that may have been insufficiently addressed in the original research. In addition, the research of the European movement aims to provide a much broader scope of analyses that may be more reliably applied to contemporary society, and to provide a social design that incorporates said research.

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The European Model

As with technocratic theory, the design has seperated into both the North American and European schools of thought, however as before common ground may be found amongst the principles that both schools of thought share as beginning points. Central to the design of both North American and European technocratic schools is the call for fundamental structural changes to the existing political and economic makeup of industrial society, that the social realm may accurately reflect the physical basis upon which it is built. Presently the North American model is the only in existence that can be said to be complete; however the following lists the beginning points of a European model which is still under development. It should be noted that the North American model has been used as a beginning point itself, the influence of which is indicated below:

Crucial concepts

1. Influence of technology [American] and social change [European]

The key observation of the technocratic doctrine is the role of high energy technology in forging the material wealth of industrial societies. As a theoretical foundation, the North Americans sought to use this influence to create a model of society in which the human adapted to physical changes in society, such as the incorporation of load factor analysis in determining resource and technology use. Social change in a sense was to occur as a structural response to changes in the physical operating characteristics of infrastructure and the engineering of the social environment. The European model incorporates the physical changes to the social realm also, but proposes that social change occur concurrently as a dynamic element of technological change instead of a response. This derives from the theory that ideas and values influence human behaviour in addition to the physical characteristics of society.

2. Absolute abundance [American] becomes Relative abundance [European]

The original technocrats proposed that an abundance of material resources, technology and trained personnel existed in the industrial society of North America during the 1930's, which demanded an economic model that reflected this abundance. The so called abundance was derived from the observation that there existed the capacity to produce more goods than could be consumed by the population, and that the abundance of energy resources such as oil, coal and gas was the prime driving force behind this apparent abundance. The European model recognizes the need to incorporate not only the availability and quantity of resources but also the dynamic equilibrium that exists between resources, population and the renewal of resources for continued use. Thus 'relative abundance' is utilized as a term to indicate the relative balance of resources to that which can be

effectively produced, consumed and returned to the production cycle.

3. Energy accounting [American] and alternative methods of distribution [European]

Proposed as an alternative to money and a means to track the consumption of goods and services, energy accounting characterizes one of the central distributive approaches to economics that the early technocrats made. Energy accounting was intended as a means to track the energy expended in the production of goods as a ratio of the extraneous energy available for the total production of goods over a given geographical region, of which an equal portion was to be provided to consumers. It was stated that, given the abundance put forward in the prior argument, consumers would find themselves with more energy 'credit' than they could possibly consume. The US model uses paper certificates but the Europe model uses a more up tot date computerised system of energy credits.

4. Dynamic equilibrium and sustainable development [European]

A new addition to technocratic analyses is the inclusion of ecological and climate concerns into the physical analysis of the social realm. Key among these analyses is the recognition that issues of energy availability, climate change and ecology represent a unified issue in terms of the flow of resources from the earth to industrial society, and eventually back to the environment. This element of the European model recognizes the requirement to reduce the dependence on non-renewable and cost-externalized resources in order for the social realm to continue to develop.

5. Consumerist paradise [American] in light of ecological footprints and enlightened immaterialism [European]

The original North American model proposed that individuals would be given the greatest freedoms to both behave and consume as they pleased. Among the means by which people would receive such freedoms would be the free distribution of goods and services based on the approach of energy accounting. Given the assertion of abundance, it was said that people would not be physically limited by scarcity of resources as they are in a price system. The European model emphasises that the original model based this assumption on the availability of mainly fossil fuels, the mass use of in the present day would be not only foolish but highly untenable due to the increasing scarcity of said fuels and the impact these fuels have on climate and ecology. Tied into the notion of concurrent social change with technological change, it is proposed that a general change in philosophy and ideas about consumption is required in order to bring about positive social change.

6. Functional use of available resources [American] and feedback of resources to maximize their functional utility [European]

Central to both the philosophy and design of the North American technate was the efficient use of resources to maximize the abundance of goods and services. As a development of this, the European model seeks to do this with not only the functional use of available resources, but the feedback of these resources in closed infrastructural loops in order to maximize the absolute functional utility of all resources. This includes the conservation of resources in order to maximize

their utility, in addition to the reduction of waste.

7. Meritocracy [American] and Democracy [European]

Perhaps the most well known of technocratic theses is the proposal that scientists and engineers manage society in a role akin to that of politicians. The original North American model proposed that a hierarchical distribution of experts would manage the technical aspects of society, which was taken to include not only the production and distribution of goods and services, but also the judiciary, police and military. Politics was to be dealt away with due to it's inherent inefficiency to manage the economy, and to ward away the danger of populism in dealing with largely physical matters that had their root in scientific analyses rather than popular consent. The European model proposes that although a meritocratic distribution of experts to manage economic matters on a physical or thermodynamic basis is necessary in such a design, there exists areas of society to which individuals must have the power to influence, lest they become unregulated agents of tyranny. These areas focus on the social arena and largely involve collective decisions that relate to the values and ideas of said collective groups, including access to a democratic and impartial judicial system.

8. Centralized [American] becomes decentralized [European]

Extending from the meritocratic structure of decision making, the North American model proposed that the operation of an entire technate would occur on the basis of a hierarchy of engineers and scientists covering an entire continental area. Said engineers would manage the infrastructure of the continent according to this hierarchy, and distribute goods and services from a central point of command. Developments in the European model have focused on de-centralizing this hierarchy into smaller co-operative units distributed over large geographical regions. The rationale behind this approach is to maximize the autonomy of smaller communities while maintaining the interdependence necessary for the large scale operation of a technological mechanism.

9. Hierarchical [American] and co-operative [European]

The distribution of power and authority in the original design was largely pyramidal, extending to a tip at the head of the technate where decisions would be made upon all aspects of society, using impersonal scientific methods. The European model recognizes the need to diffuse power and authority horizontally in order to encourage co-operation, and lateralize responsibility.

10. Provincialism [American] and internationalism [European]

The original model called for the establishment of a Technate over a limited geographical area, notably a continent. Also limited in this model was the extent to which the technate interacted with it's neighbours and other states/technates. The European model teeters between such provincialism and a more international approach.